

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA
CHARLESTON DIVISION**

ORDER

This matter comes before the court on defendant's motion in limine to exclude the government's witness, FBI Special Agent Mike Sutton, from providing expert testimony regarding historical cell site analysis. Defendant argues that Special Agent Sutton is not qualified as an expert and that his testimony is not based upon sufficiently reliable methodology to be admissible under the Federal Rules of Evidence and Daubert v. Merrill-Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993). For the reasons set forth below, the court denies defendant's motion in limine.

I. BACKGROUND

The Grand Jury has charged defendant Winard Eady, along with two co-defendants, with unlawfully conspiring to rob numerous restaurants and check cashing businesses. Having obtained cell phone records of defendant and certain government witnesses,¹ the government plans to offer the testimony of Special Agent Sutton to

¹ Defendant does not challenge the government’s seizure of his phone records. Courts in this Circuit have held that defendants do not have a reasonable expectation of privacy in historical cell site records. See United States v. Graham, 846 F. Supp. 2d 384, 389 (D. Md. 2012); see also Smith v. Maryland, 442 U.S. 735, 743-44 (1979) (holding that “a person has no legitimate expectation of privacy in information he voluntarily turns over to third parties”); United States v. Bynum, 604 F.3d 161, 164 (4th Cir. 2010)

establish defendant's approximate location during the robberies. Special Agent Sutton has provided the court with draft exhibits, which are maps that purport to show the location of cell towers utilized by defendant's cell phone at the time certain robberies took place. The exhibits contain lines drawn by Special Agent Sutton that are meant to demonstrate the geographic area or "sector" in which defendant's cell phone must have been located when it connected to a specific cell tower. Importantly, Special Agent Sutton does not attempt to pinpoint defendant's precise location through the use of historical cell site information. See Gov't's Supplemental Resp. 2 (stating that Special Agent Sutton will "testify about basic cell phone operation and how it is possible to learn the general location of a person receiving and making cell phone calls," but that Special Agent Sutton "cannot (and will not) testify about a cell phone's precise location using this method of analysis"). The government offers Special Agent Sutton as an "expert witness in the area of historical cell site analysis." Gov't's Rule 16 Notice 1.

On July 11-12, 2013, the court held a hearing on defendant's motion to exclude. Defendant put forth testimony by Manfred Schenk, who defendant offered as an expert in cellular communications. Following the hearing, the court held defendant's motion in abeyance because the government had yet to produce the draft exhibits it intends Special Agent Sutton to use at trial. The court held a subsequent hearing on August 27, 2013.² Defendant withdrew his earlier expert witness and offered testimony by Ben Levitan,

(holding that a person has no legitimate expectation of privacy in internet subscriber information because it is voluntarily conveyed to internet and phone companies).

² The court was disappointed to learn at the August 27, 2013 hearing that Special Agent Sutton's exhibits are still "drafts" in several respects, even though the government and Special Agent Sutton were given over a month and a half to update the exhibits from the prior hearing. Nevertheless, the court has been provided with enough information to rule on the admissibility of Special Agent Sutton's testimony.

who defendant offers “as a rebuttal expert witness in the area of historical cell site analysis.”³ Def.’s Rule 16 Notice 1.

II. STANDARD

Federal Rule of Evidence 702 provides:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

District courts serve as gatekeepers for expert testimony. The court has a “special obligation” to ensure that expert testimony is relevant and reliable. Kumho Tire Co. v. Carmichael, 526 U.S. 137, 147 (1999).

Under Daubert, the court must address two questions: first, whether the expert’s testimony is based on “scientific knowledge”; and second, whether the testimony “will assist the trier of fact to understand or determine a fact in issue.” 509 U.S. at 592. The

³ Defendant had a well-founded suspicion that the court would have excluded his former “expert” from testifying at trial, given that Mr. Schenk’s opinions, based primarily on things he has read on the internet, matched the definition of *ipse dixit*. See Hr’g Tr., July 11, 2013, ECF No. 154 at 125:9-11 (“Q: And this opinion of yours is based on things you’ve read on the Internet? A: Yes. Q: No actual work in the field? A: Yes, okay, fine. Q: Not since the 70s? A: Okay, fine, yeah.”). Allowing Mr. Schenk to offer expert testimony in the complicated field of historical cell site analysis based primarily on internet research would be akin to allowing an engineer to testify he can turn lead into gold simply because he read the story of King Midas on the internet. See Gen. Elec. Co. v. Joiner, 522 U.S. 136, 146 (1997) (court is not required to admit an opinion based on the “*ipse dixit* of the expert” that creates “too great an analytical gap between the data and the opinion proffered”).

first question is answered by assessing “whether the reasoning or methodology underlying the testimony is scientifically valid.” Id. at 592-93. Several nondispositive factors should be considered in determining the reliability of a particular scientific theory or technique: whether it (1) can be and has been tested; (2) has been subjected to peer review and publication; (3) has a known or potential rate of error; and (4) has attained general acceptance in the pertinent scientific community. See id. at 593-94. In considering these factors, the focus “must be solely on principles and methodology, not on the conclusions that they generate.” Id. at 595. The factors are not exclusive; what factors are relevant to the analysis “depends upon the particular circumstances of the particular case at issue.” Kumho Tire, 526 U.S. at 150.

The second inquiry “goes primarily to relevance.” Daubert, 509 U.S. at 591. Relevance is determined by ascertaining whether the testimony is sufficiently tied to the facts of the case such that it will aid the jury in resolving a factual dispute. Id. at 593.

“A review of the caselaw after Daubert shows that the rejection of expert testimony is the exception rather than the rule.” Fed. R. Evid. 702, Advisory Committee’s Note to 2000 Amendments. “Daubert did not work a ‘seachange over federal evidence law,’ and ‘the trial court’s role as gatekeeper is not intended to serve as a replacement for the adversary system.’” Id. (quoting United States v. 14.38 Acres of Land Situated in Leflore Cnty., 80 F.3d 1074, 1078 (5th Cir. 1996)).

III. DISCUSSION

Defendant challenges Special Agent Sutton’s qualifications to provide expert testimony. Defendant also argues that Special Agent Sutton’s methodology is unreliable and thus his testimony should be excluded under Rule 702 and Daubert.

A. Qualifications

Defendant challenges the ability of Special Agent Sutton to offer expert opinions in the area of historical cell site analysis, arguing that Special Agent Sutton has “insufficient background and experience” to properly analyze cell data. Def.’s Rule 16 Notice 2.

The proponent of expert witness testimony bears the burden of proving that the witness has the necessary qualifications. Rule 702 provides that an expert may be qualified to offer an opinion on the basis of his education, knowledge, skill, training, or experience. “The witness’s qualifications to render an expert opinion are . . . liberally judged by Rule 702.” Kopf v. Skymr, 993 F.2d 374, 377 (4th Cir. 1993).

The court has reviewed the education, work experience, training, certifications, and other relevant information pertaining to both Special Agent Sutton and Mr. Levitan, and finds that both are qualified to offer expert opinion testimony in this case.

B. Reliability and Relevance

Defendant argues that Special Agent Sutton’s testimony must be excluded because the methodology employed by Special Agent Sutton to estimate defendant’s general location based on historical cell site information is flawed.⁴

The experts agree on the majority of the following, with minor variations: Cellular networks consist of a group of cell towers. When a user places a call or sends a

⁴ Defendant originally contended that Special Agent Sutton’s analysis is flawed because it hinges on the assumption that a cell phone always connects to the nearest cell tower. This argument proved to be a mischaracterization of Special Agent Sutton’s analysis. Special Agent Sutton disavowed that assumption, instead opining that a cell phone always connects to the “most attractive” tower. See Hrg Tr., July 11, 2013, ECF No. 154 at 35:19-21 (testifying that a cell phone “would communicate with the tower that is the most attractive or has the highest quality of signal”).

text message from a cell phone, the phone communicates with the cell network's mobile switching station, which routes the phone to a cell tower. Tower selection depends upon factors such as proximity of the phone to the tower, whether terrain and buildings obstruct the connection, and call volume at a particular tower. As the caller moves around, the call may be handed off to other towers.

Phone companies log the connections that phones make to cell towers. These call detail records show the particular tower that a cell phone used for a call. Phone companies keep such records in the normal course of business and they may be obtained by subpoena. Phone companies also routinely create RF plans, which are maps depicting the coverage area of the company's cell towers. The coverage area of each cell tower is typically divided into three 120° sectors. According to Mr. Levitan, phone companies' RF plans are proprietary, so experts must draw their own RF plans through reverse engineering based on their knowledge of the location and relative strength of cell towers and other factors.

In this case, Special Agent Sutton has reviewed call detail records for defendant's cell phones during the timeframe of various alleged robberies. He has drawn maps showing the location of the cell towers to which defendant's phones connected based on the information he obtained in call detail records. Special Agent Sutton then drew two lines coming out from each cell tower to which defendant's phones connected. The lines extend outward at 120° and represent a sector of the cell tower's coverage area. The placement and size of a 120° sector is based on Agent Sutton's formulation of the phone company's RF plan. He derives the RF plan through methods such as conducting a JDSU drive test, in which he drives and collects data through a phone about the strength of a

tower's signal. From this, Special Agent Sutton concludes that defendant's phone must have been within a particular geographic sector at a given time when the phone connected to a tower. Special Agent Sutton does not state defendant's location to a specific latitudinal or longitudinal point.

Mr. Levitan agrees that proper historical cell site analysis depends on first obtaining call detail records for an individual's phone and then plotting the cell towers to which the individual's phone connected. Where the experts' theories depart is in the reconstruction of the phone company's RF plan. Based on his understanding of market efficiency in the cellular communications industry, Mr. Levitan opines that phone companies will place their cell towers in a way that minimizes unnecessary coverage overlap with nearby towers. According to Mr. Levitan, when Special Agent Sutton's 120° pie shapes are extended to form a 360° circle of coverage emanating from a particular cell tower, there is too much overlap of coverage between that cell tower and the next closest tower. Mr. Levitan believes that to properly reconstruct an RF plan, the coverage area of a particular tower should only have minimal overlap to the next closest tower. Because of the overlap in Special Agent Sutton's maps, Mr. Levitan concludes that Special Agent Sutton has rendered an invalid RF plan reconstruction that cannot reliably estimate the location of defendant's cell phone through use of historical cell site information.

In United States v. Machado-Erazo, --- F. Supp. 2d ----, 2013 WL 2932399 (D.D.C. June 17, 2013), the United States District Court for the District of Columbia considered the admissibility of historical cell site analysis. In that case, the government agent derived his conclusions from projecting a likely area from which a call was made,

based on the specific tower to which a call connected. Like Special Agent Sutton, the agent in Machado-Erazo drew 120° pie shapes extending from the cell towers, and offered an opinion that the cell phone was in use at a particular time within the 120° sector. The court found that the agent's methodology "clears the hurdle imposed by Daubert and Rule 702." Id. at *5-6.

Similar testimony was also at issue in United States v. Jones, 918 F. Supp. 2d 1 (D.D.C. 2013). The court explained the agent's methodology as follows:

The records obtained pursuant to the court orders specify the cell tower and sector the cell phone connected to at the beginning and end of each call. Additionally, the cellular service providers release lists of their cell towers to law enforcement, including "the location of their cell towers, with GPS coordinates for each tower, and the specifications for each of the sectors of the towers." By combining those two resources, Agent Eicher plotted on a map the location of the precise cell tower and sector that the phones connected to for each phone call and the direction and width (i.e., 120°) of each sector.

Id. at 5 (citations omitted). The court found the agent's methodology to be reliable and that he had relied upon sufficient facts and data in formulating his conclusions.

The court in Jones also remarked that "the use of cell phone location records to determine the general location of a cell phone has been widely accepted by numerous federal courts." Id. While the law in this area is still developing, this court agrees that the overwhelming consensus of judicial authority favors a finding that methodology of the kind employed by Special Agent Sutton is reliable. See, e.g., United States v. Schaffer, 439 F. App'x 344 (5th Cir. 2011); United States v. Reynolds, No. 12-cr-20843, 2013 WL 2480684 (E.D. Mich. June 10, 2013); United States v. Davis, No. 11-cr-60285, 2013 WL 2156659 (S.D. Fla. May 17, 2013); United States v. Fama, No. 12-cr-186, 2012 WL 6102700 (E.D.N.Y. Dec. 10, 2012); United States v. Henderson, No. 10-cr-117, 2011

WL 6016477, at *5 (N.D. Okla. Dec. 2, 2011); United States v. Benford, No. 09-cr-86, 2010 WL 2346305 (N.D. Ind. June 8, 2010); United States v. Allums, No. 08-cr-30, 2009 WL 806748 (D. Utah Mar. 24, 2009).

The only case defendant cites to bolster his position is United States v. Evans, 892 F. Supp. 2d 949 (N.D. Ill. 2012), but his reliance on that case is misplaced. In Evans, the court took issue with a theory known as “granulization”⁵ put forth by the government agent to estimate the range of cell sectors. To determine the location of a cell phone using granulization, the agent would essentially construct an RF plan and “predict[] where the coverage area of one tower will overlap with the coverage area of another.” Id. at 952. The agent would then place the location of the cell phone within the coverage overlap of two cell towers. The agent’s analysis relied upon an assumption that a cell phone always connects to the closest tower when a call is made. The court was “unconvinced that granulization theory is reliable” and excluded the agent from testifying concerning the theory of granulization. Id. at 956-57.

Here, Special Agent Sutton does not estimate defendant’s cell phone to be located within the overlap of cell tower coverage areas. In addition, he does not assume that a cell phone always connects to the nearest cell tower. For these reasons, Evans is inapplicable.

Based on the authority cited above and after hearing Special Agent Sutton’s testimony, the court finds that his proposed testimony is the product of reliable principles and methods and that he has reliably applied those principles and methods to the facts of

⁵ “Granulization” was never specifically defined by the Evans court. See Machado-Erazo, 2013 WL 2932399, at *7 n.7 (“The Evans court never defined the ‘granulization theory,’ so its precise meaning is unclear.”).

this case. Cf. Machado-Erazo, 2013 WL 2932399, at *6 (finding similar testimony to be reliable); Reynolds, 2013 WL 2480684, at *5 (finding agent's testimony reliable where he would not testify that the phone was located in a specific place, but instead give testimony regarding the general location of the defendant's cell phone). In addition, the court finds that Special Agent Sutton's testimony will be relevant by aiding the jury in understanding the use of cell phone technology and determining facts in issue, including the general location of defendant and certain government witnesses at the time the alleged robberies took place. See Reynolds, 2013 WL 2480684, at *4 (finding agent's testimony relevant where call activity from defendant's cell phone placed him in the general area of a house in which illegal activity occurred, and testimony about that call activity made it more likely that defendant was physically present in the house at the times the illegal conduct occurred).

Many of defendant's arguments go towards the weight of Special Agent Sutton's testimony rather than its admissibility. The court's gatekeeping function does not extend to choosing which expert has the preferred method. See Fed. R. Evid. 702, Advisory Committee's Note to 2000 Amendments; Wilder Enters., Inc. v. Allied Artists Pictures Corp., 632 F.2d 1135, 1144 (4th Cir. 1980). The jury will be permitted to hear testimony from both experts and draw their own conclusion.

IV. CONCLUSION

Based on the foregoing, the court **DENIES** defendant's motion in limine.

AND IT IS SO ORDERED.



DAVID C. NORTON
UNITED STATES DISTRICT JUDGE

August 30, 2013
Charleston, South Carolina